

## SYSTEM AND METHOD FOR PARALLELLING DIGITAL WRAPPER DATA STREAMS

### ABSTRACT OF THE INVENTION

5           A system and method are provided for paralleling data streams in a G.709 network of connected integrated circuits. The system comprises a demultiplexer for receiving a first digital wrapper data stream having a first data rate. The demultiplexer demultiplexes the first data stream into a second plurality of digital wrapper data streams

10   having a second data rate, less than the first data rate. A second plurality of processors each accept a corresponding one of the second plurality of data streams and supply a processed data stream at the second data rate. A multiplexer receives the second plurality of processed data streams and multiplexes the second plurality of processed data streams into a first

15   digital wrapper processed data stream having the first data rate for transmission. The demultiplexer receives frame alignment signal bytes in the overhead of every first data stream frame and synchronizes frame alignment signal bytes in each of the second plurality of data streams to the frame alignment signal bytes in the first data stream. Each processor

20   processing one of the second plurality of data streams in response to receiving its corresponding synchronization signal. Each processor supplies a frame start signal corresponding to its processed data stream. The multiplexer synchronizes frame alignment signal bytes in the first processed data stream to each of the frame alignment signal bytes in the

25   second plurality of processed data streams. The multiplexer phase matches the frame start signals and deskews the second plurality of processed data streams to match their corresponding frame start signals.

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"FOOTNOTES"